

WELLS FARGO

Broken Land Markets

Tough Choices

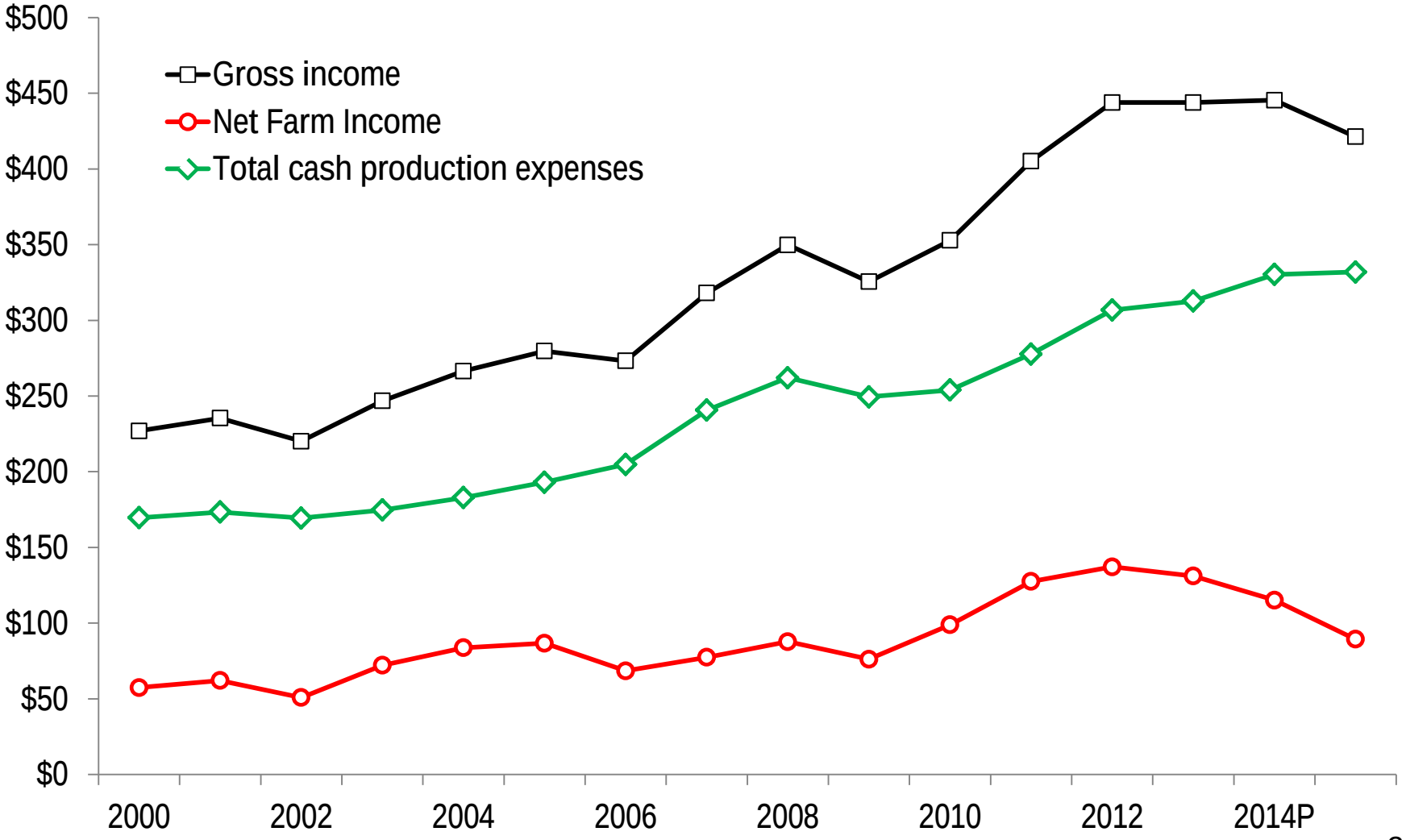
Michael Swanson Ph.D.

Wells Fargo

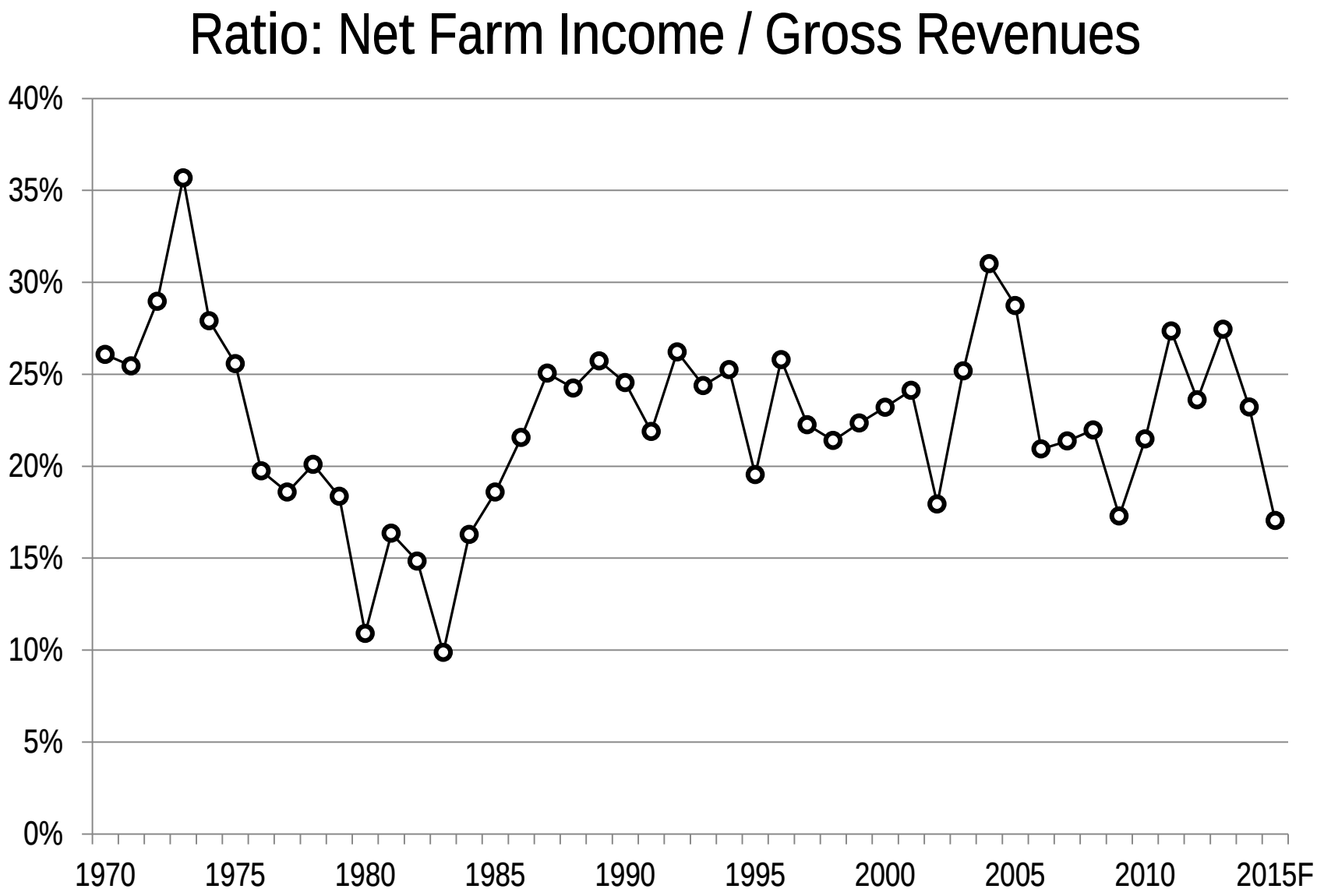
April 2015

More money – More risk – More Profits

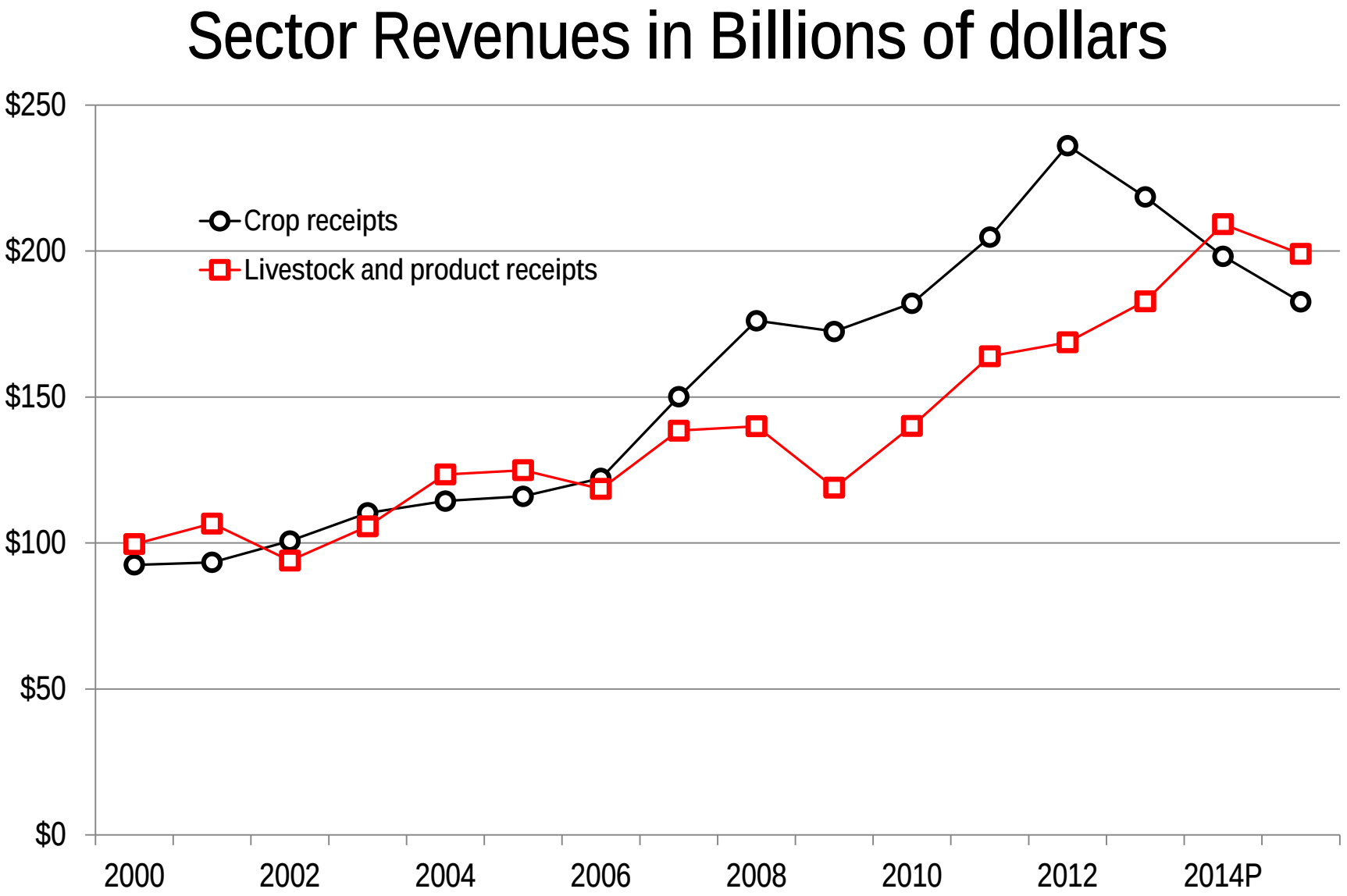
US Farm Financials in Billions



Can ratios really change?



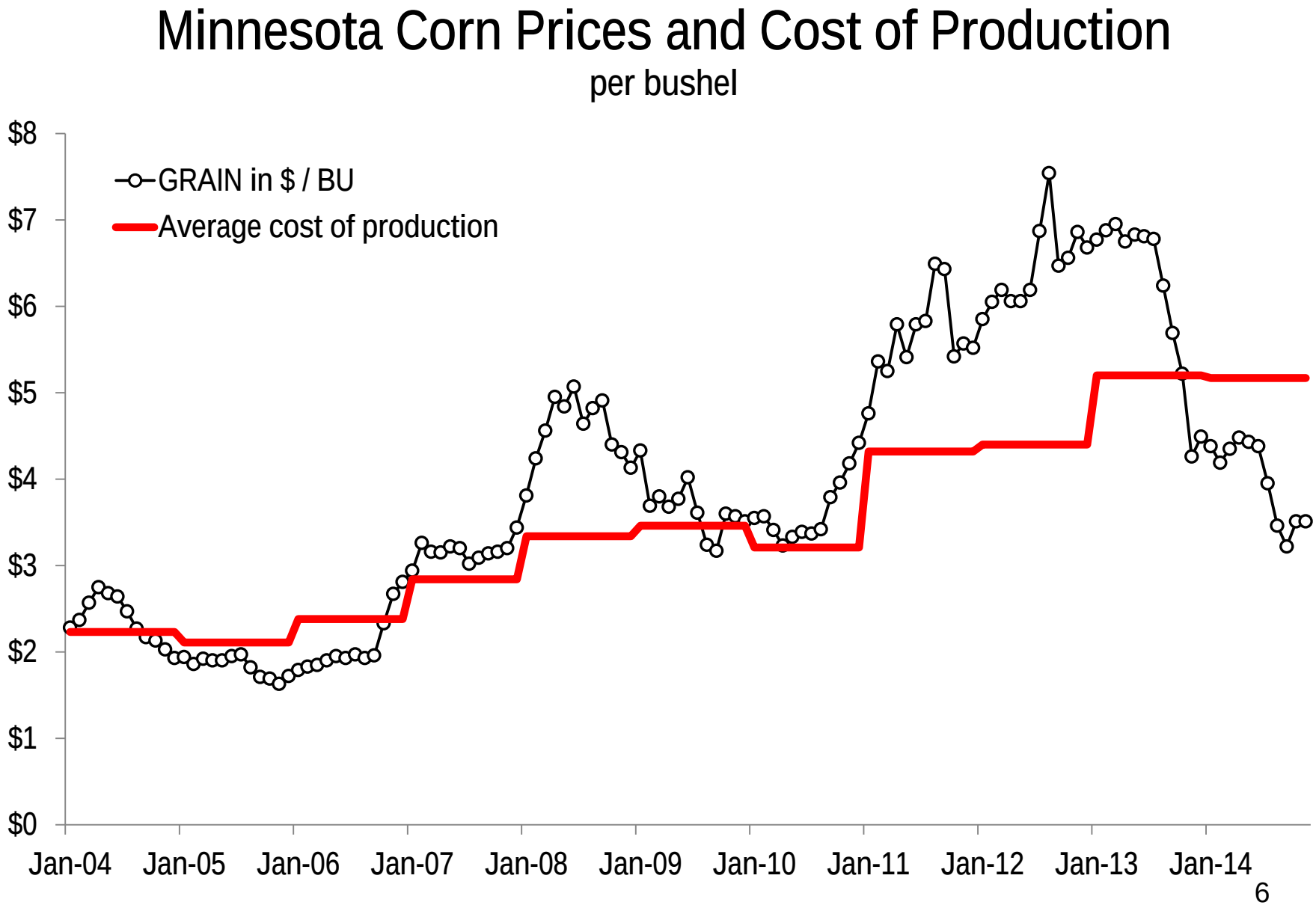
Changing fortunes?



Key questions

1. **What is corn worth?**
2. **Why is corn worth that?**
3. **Who gets what share?**
4. **What differentiates the producers?**
5. **What's your "play"**

Where does volatility come from?



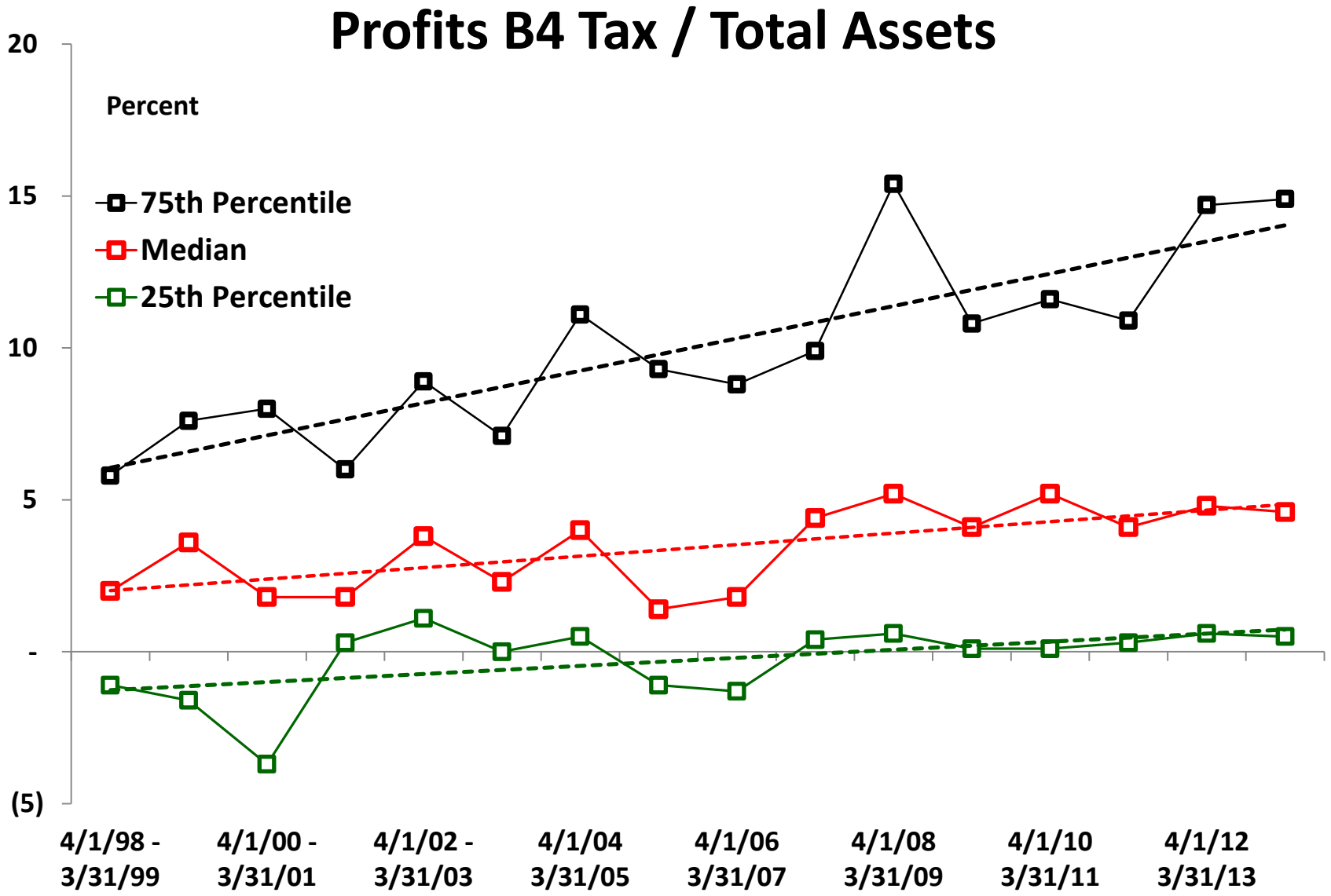
Landlords are paid by the acre

Farmers are paid by the bushel

Key Assertions

- **Wide spread in farming performance**
  - Gaps persist
  - Bottom performers exit
- **Marketing is not a competitive advantage**
  - You can fail on it
  - You can’t out perform on it
- **Production cost is a competitive advantage**
  - Agronomic skills vary
  - Asset discipline matter
    - Over emphasis on land investment
    - Equalization of ROI matters

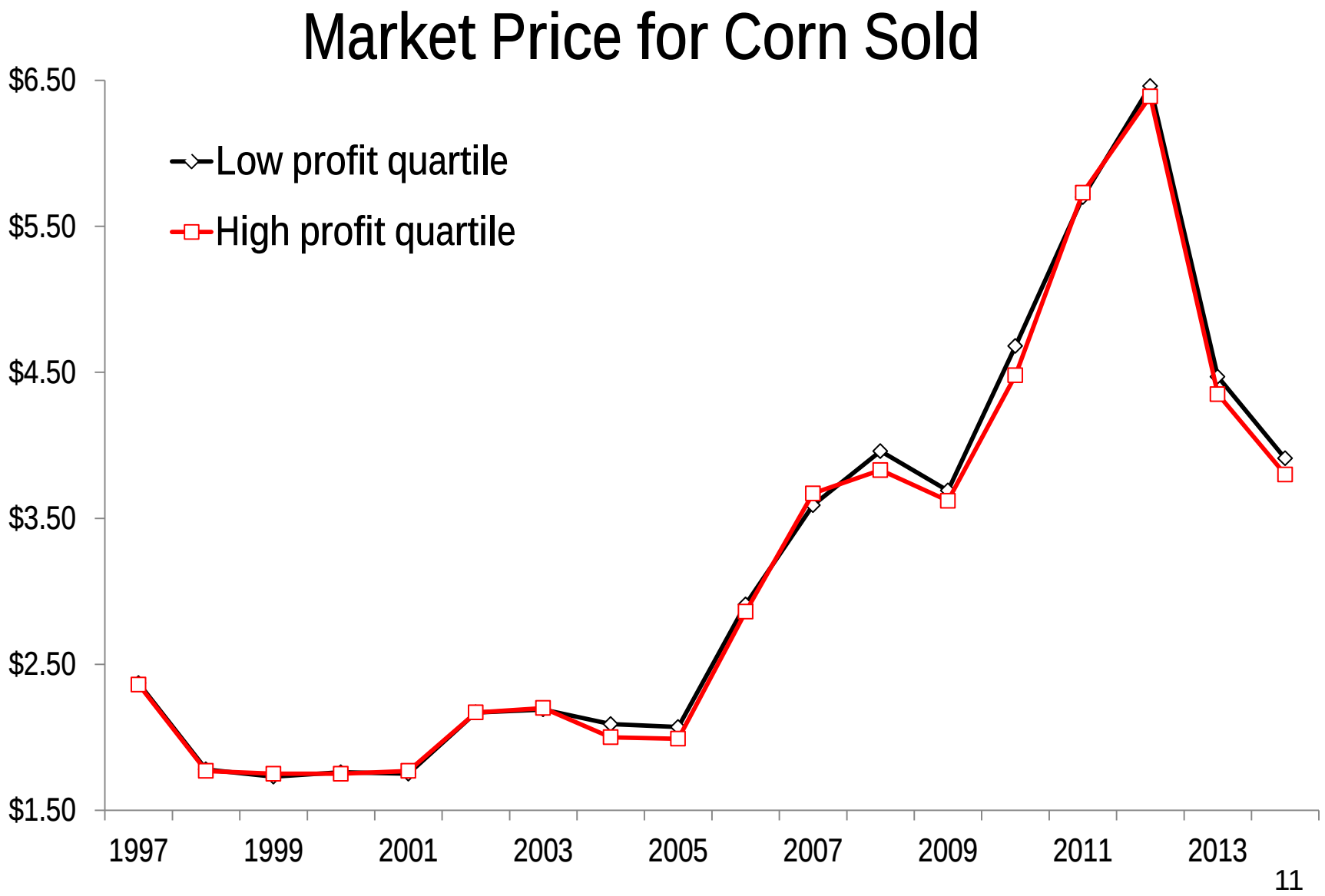
Same environment – different results



You can’t out market the “market”

1. **Trading costs add up**
2. **You are “outside” the information loop**
    1. They get it first
    2. You trade second hand
3. **You have a built-in “bias”**
    1. You are not an expert because you grow it
    2. You want “it” to go up and only up
4. **Managing “cash basis” is the one true competitive factor**

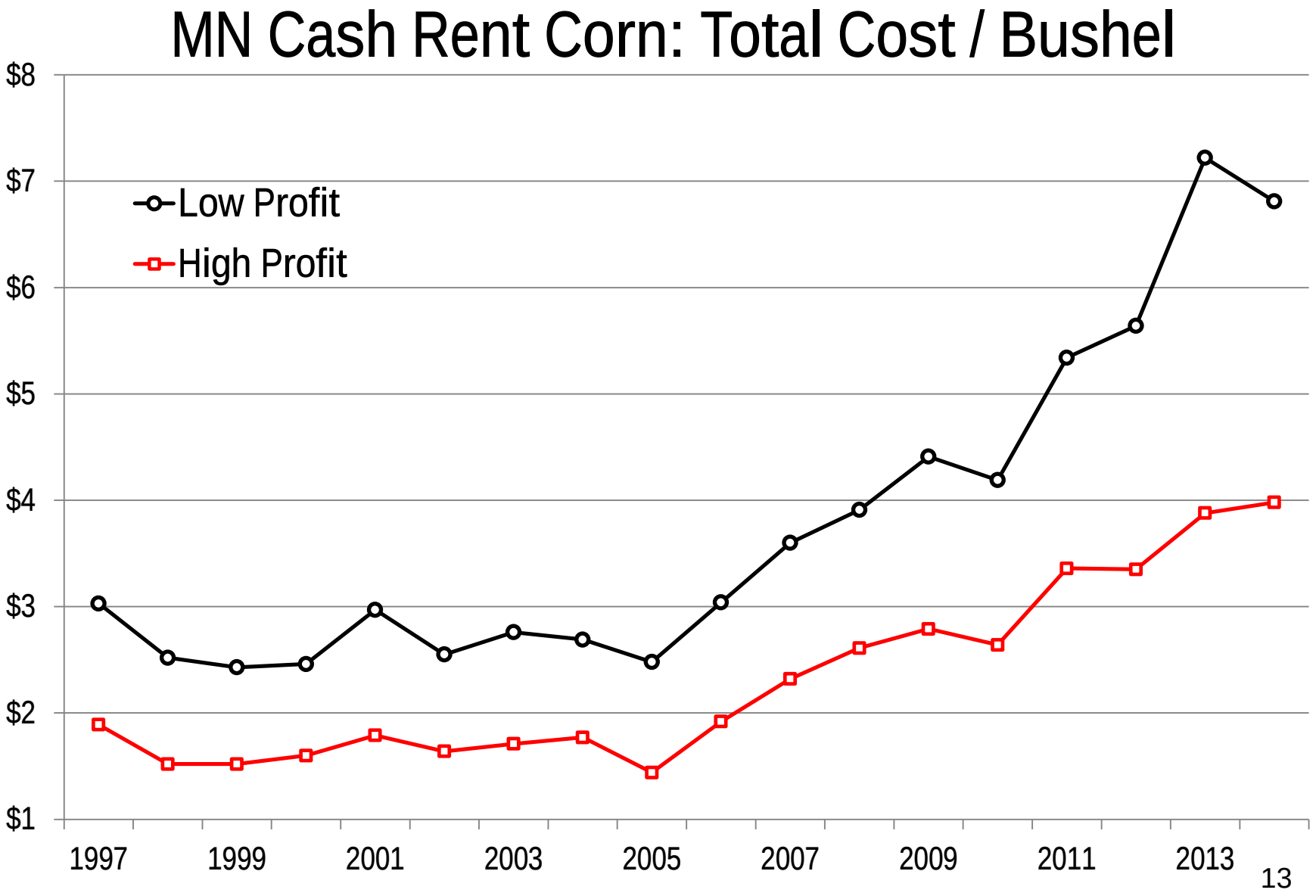
MN cash rent: No one is a better marketer



You can out produce the “market”

1. **Agronomic skills**
   1. The only true “economies of scale”
   2. Managing complexity
   3. Constantly changing
2. **Asset discipline**
   1. Not a question of timing
   2. Simple not easy
   3. Opportunities change with prices

MN cash rent: Some great producers



Farm the best

Forget the rest

You can’t fix the markets just yourself

Corn on Cash Rent	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Yield per acre (bu.)	131	154	167	169	170
Value per bu.	3.91	3.99	3.97	3.83	3.80
Total product return per acre	515	616	665	648	648
Crop insurance+other per acre	211	172	138	116	76
Gross return per acre	726	789	803	764	724

6 Expenses account for 90% of expense

Corn on Cash Rent	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Direct Expenses					
Land rent	237	238	244	223	173
Fertilizer	174	164	165	153	144
Seed	123	124	125	124	118
Repairs	57	49	40	39	35
Fuel & oil	41	38	35	31	31
Crop chemicals	34	34	36	32	29
Crop insurance	24	26	23	19	20
Other	66	69	67	52	43
Total direct expenses per acre	756	743	737	673	592
Total w/o cash rent	518	504	493	450	420
Total overhead expenses per acre	139	126	107	98	84

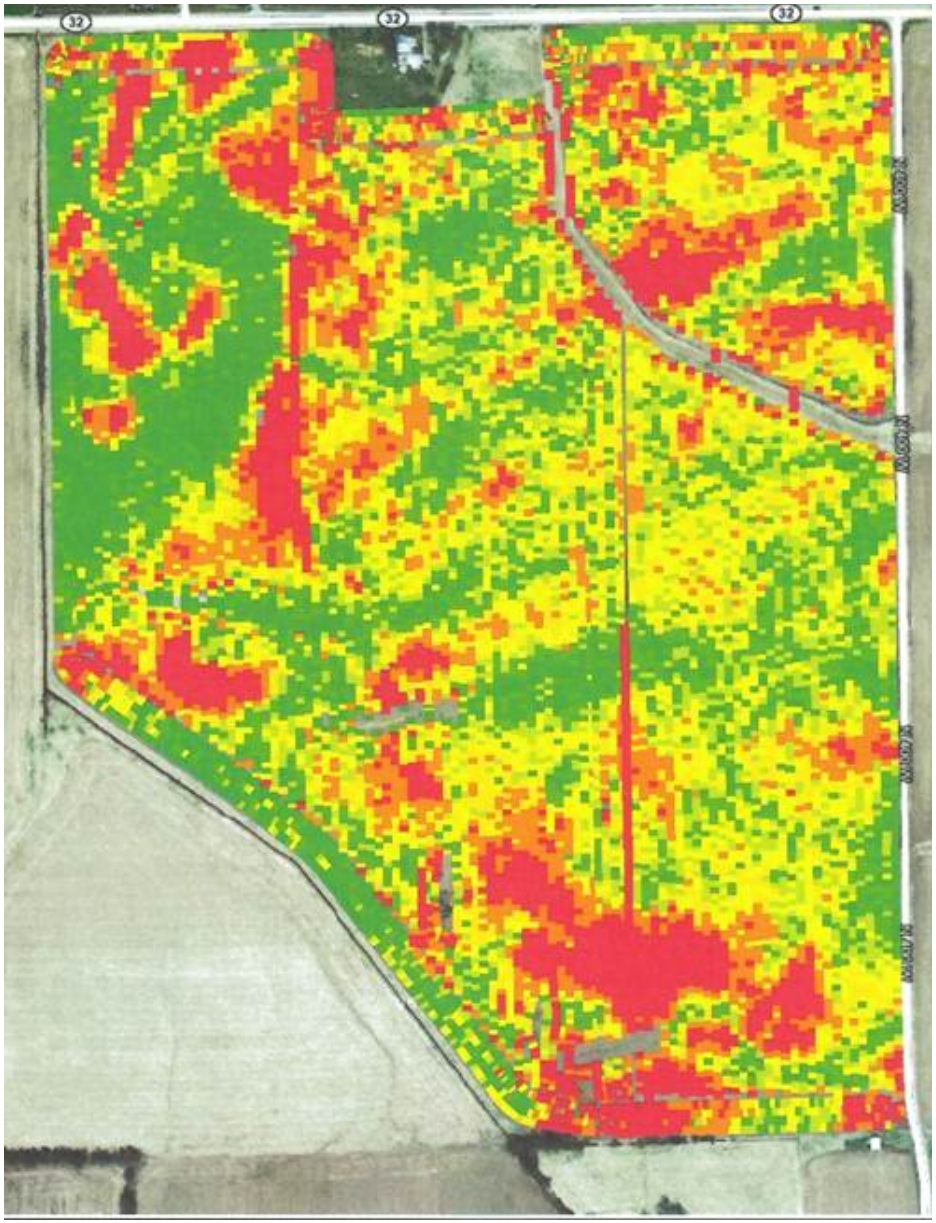
You can’t pick a price that fixes the problem

Corn on Cash Rent	Low 20%	20 - 40%	40 - 60%	60 - 80%	High 20%
Cost of Production					
Total direct expense per bu.	5.75	4.82	4.4	3.98	3.48
Total dir & ovhd exp per bu.	6.81	5.63	5.05	4.57	3.98
Less govt & other income	5.19	4.5	4.19	3.86	3.51
With labor & management	5.61	4.85	4.49	4.16	3.84
Net value per unit	3.91	4	3.99	3.82	3.81
Machinery cost per acre	191	173	152	137	123
Est. labor hours per acre	2.89	2.87	2.71	2.54	2.85

Asset discipline is a huge advantage

1. **Inter-field economics**
   1. Fixed cost is slippery concept
   2. Your APH “is what it is”
   3. Timeliness of operations – seriously undervalued
2. **Intra-field economics**
   1. What can be fixed?
   2. What does it cost to fix it?
   3. Death by averages

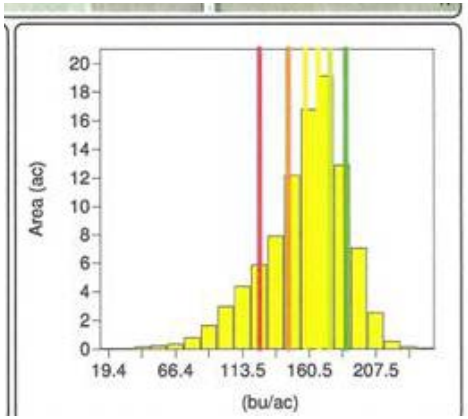
What do you see?



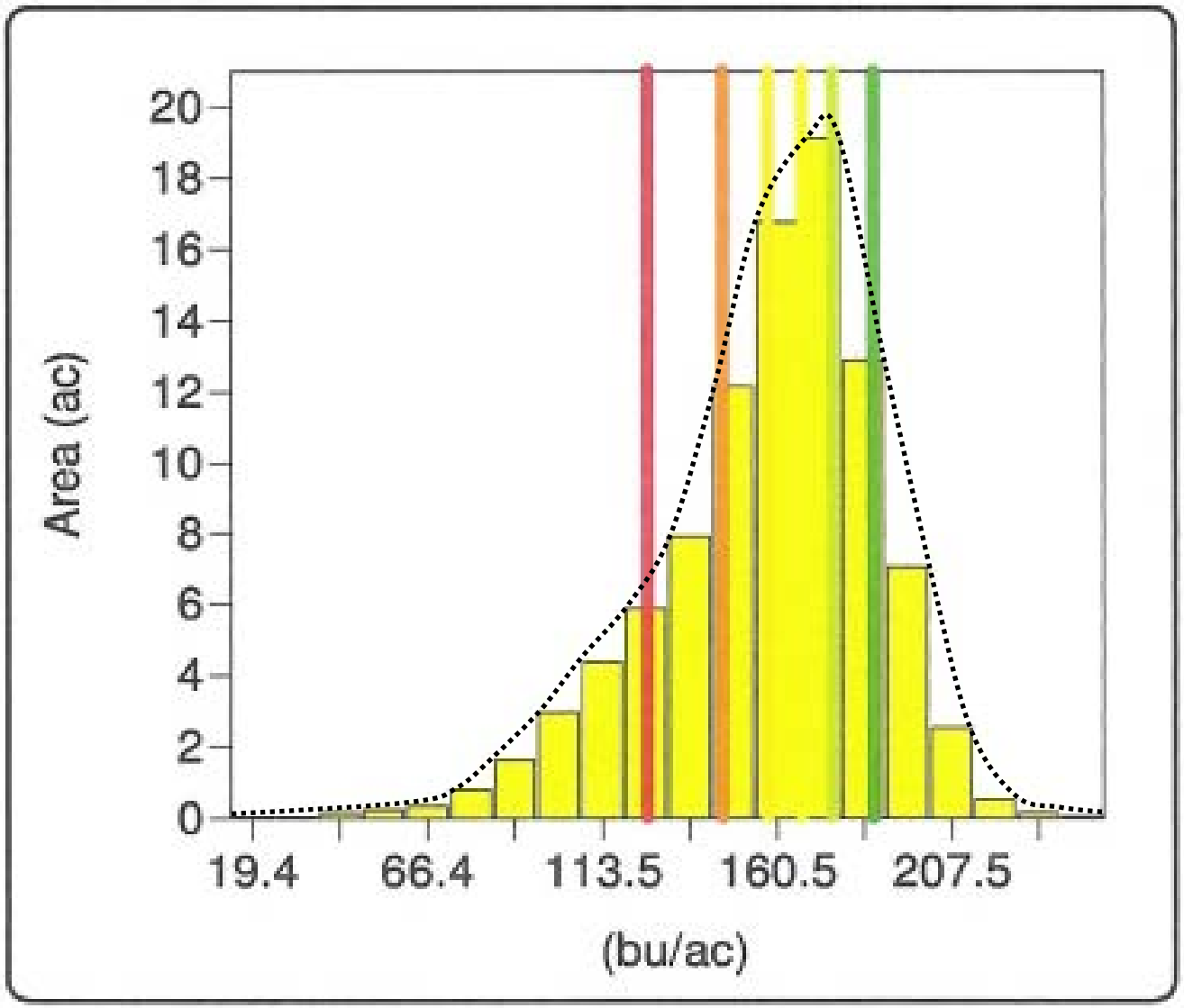
Farm : Charles
Field : East
Year : 2011
Operation : Grain Harvest
Crop / Product : CORN
Op. Instance : Harvest - 1
Area : 99.99 ac
Avg. Yield : 154.30 bu/ac
Avg. Moisture : 17.59 %

Estimated Volume (Dry)
(bu/ac)

186.58	395.63	(13.36 ac)
175.50	186.58	(13.81 ac)
167.16	175.50	(13.88 ac)
158.16	167.16	(13.84 ac)
145.95	158.16	(13.77 ac)
125.73	145.95	(13.69 ac)
13.51	125.73	(13.34 ac)



What do I see? Skew



A deeper look

With no additional investment				
Yield mid point	# of acres	# of bushels	Cost per bushel	Dollars spent
55	**1.0**	**55**	$ 7.25	397
67	**1.0**	**67**	$ 5.97	397
78	**1.0**	**78**	$ 5.07	397
90	**2.0**	**180**	$ 4.41	794
102	**3.0**	**305**	$ 3.90	1191
114	**5.0**	**568**	$ 3.50	1985
125	**7.0**	**877**	$ 3.17	2779
137	**8.0**	**1,096**	$ 2.90	3176
149	**12.5**	**1,859**	$ 2.67	4962.5
161	**17.5**	**2,809**	$ 2.47	6947.5
172	**19.0**	**3,273**	$ 2.30	7543
184	**13.0**	**2,392**	$ 2.16	5161
196	**7.0**	**1,370**	$ 2.03	2779
208	**2.0**	**415**	$ 1.91	794
219	**1.0**	**219**	$ 1.81	397
	100	**15,562**		**39,700**
Average cost per bushel				$ 2.55

Do all the math

	Current	Don't Plant	Invest to Improve
Acres	100	72	100
Average Yield	156	171	178
Total Production	15,562	12,337	17,818
Revenue at $5/bushel	$ 77,812	$ 61,687	$ 89,092
Variable Cost at $397/acre	$ 39,700	$ 28,584	$ 39,700
10 year Capital recovery	$ -	$ -	$ 3,080
Additional operating cost	$ -	$ -	$ 1,770
Assume cash rent $225/acre	$ 22,275	$ 22,275	$ 22,275
Assume overhead $125/acre	$ 12,375	$ 7,425	$ 12,375
Total costs	$ 74,350	$ 58,284	$ 79,200
Revenue less total costs	$ 3,462	$ 3,403	$ 9,891
VC per bushel	$ 2.55	$ 2.32	$ 2.23
Capital and operating for invest	$ -	$ -	$ 0.27
TC per bushel	$ 4.78	$ 4.72	$ 4.44

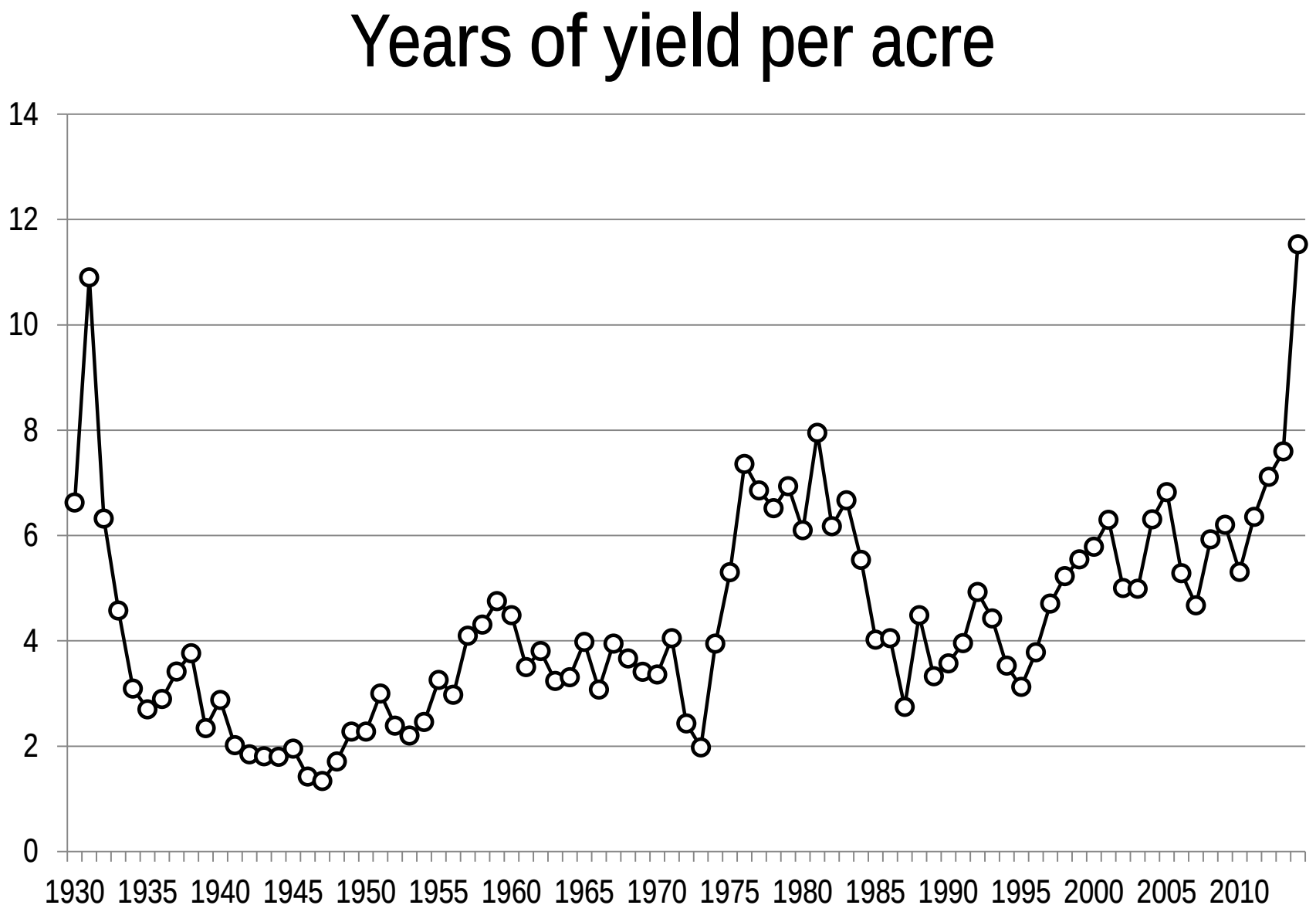
You can do just about anything,

but can you do economically?

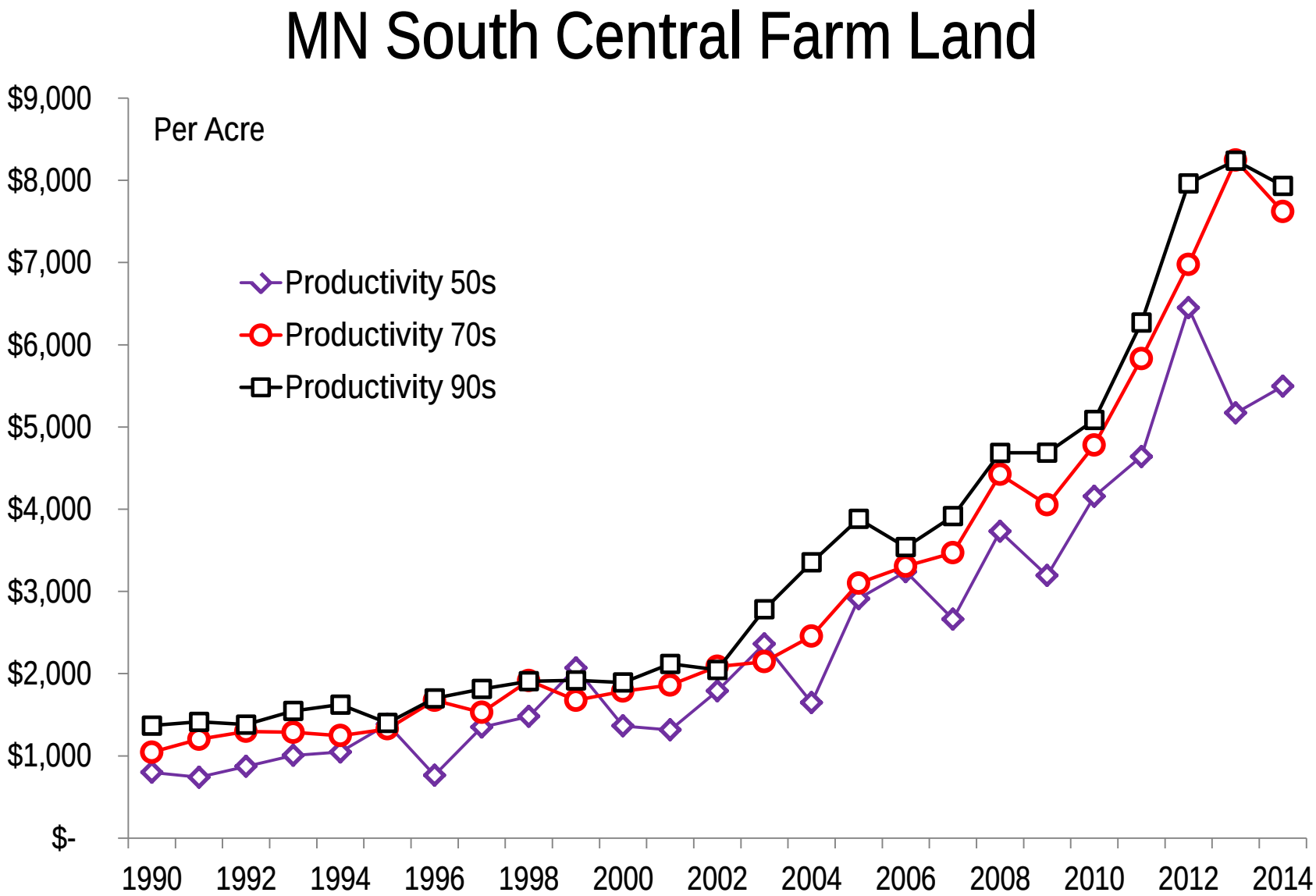
The land market is flawed because people are flawed

1. **Quasi-rational**
    1. Not rational
    2. Not irrational
2. **Fight against**
    1. Over stating “economies of scale”
    2. Short-term costing on long-term assets
    3. It’s never coming up for sale again
3. **Treat investment dollars equally**
    1. Even out your ROI
    2. You need to do to real learning

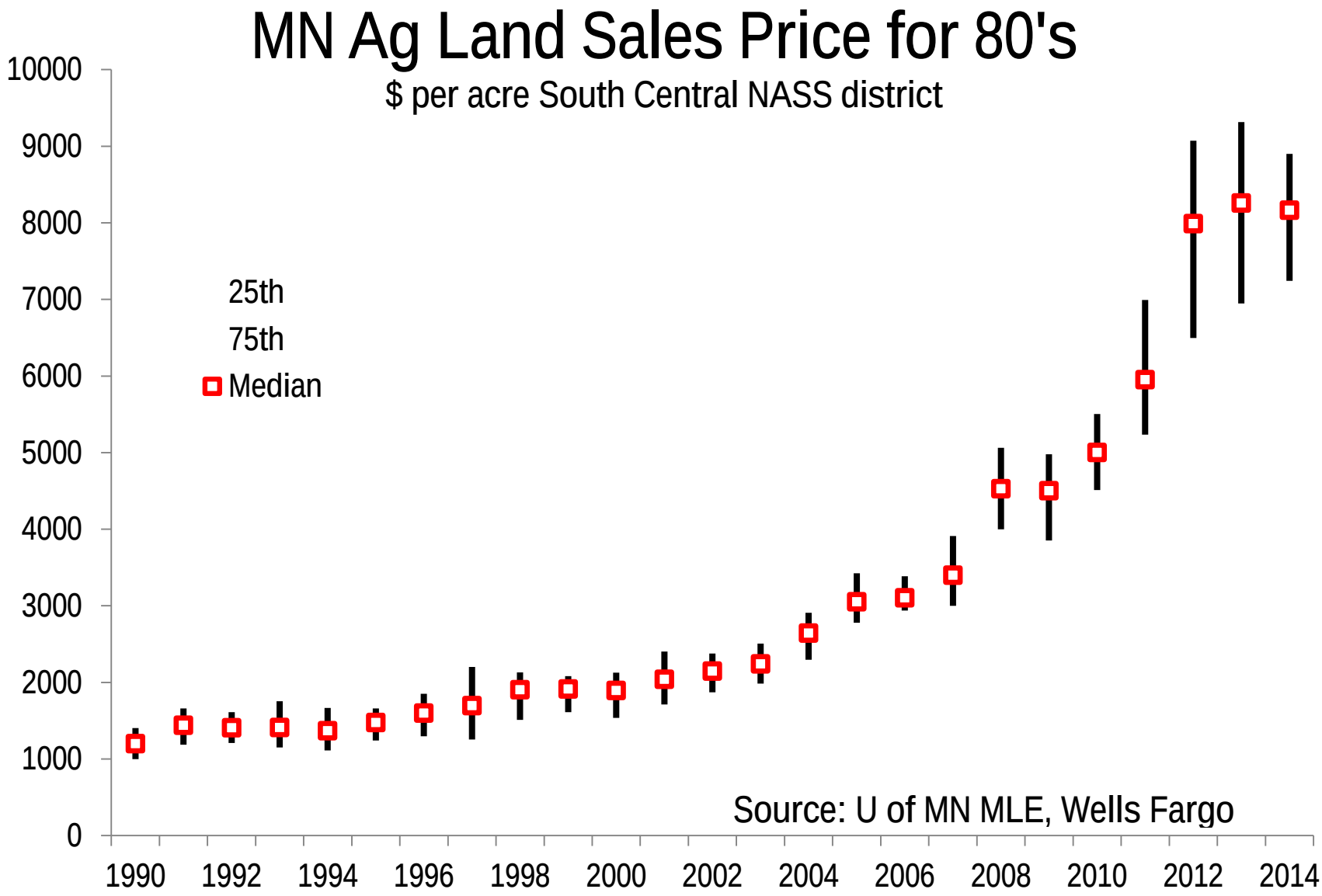
What is the right measure?



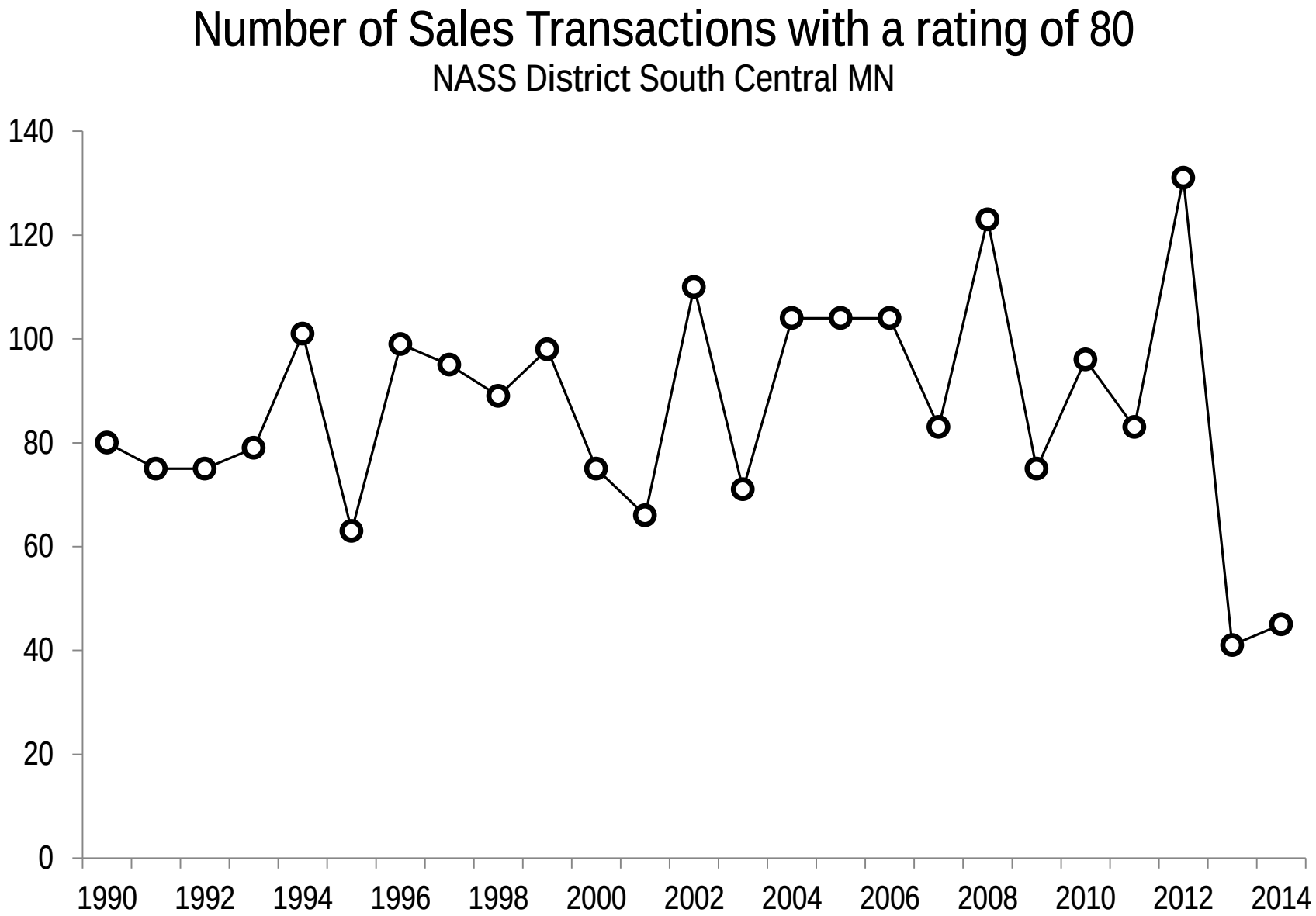
Asset discipline is yours to control



Within class has significant variation



More transactions = better valuations

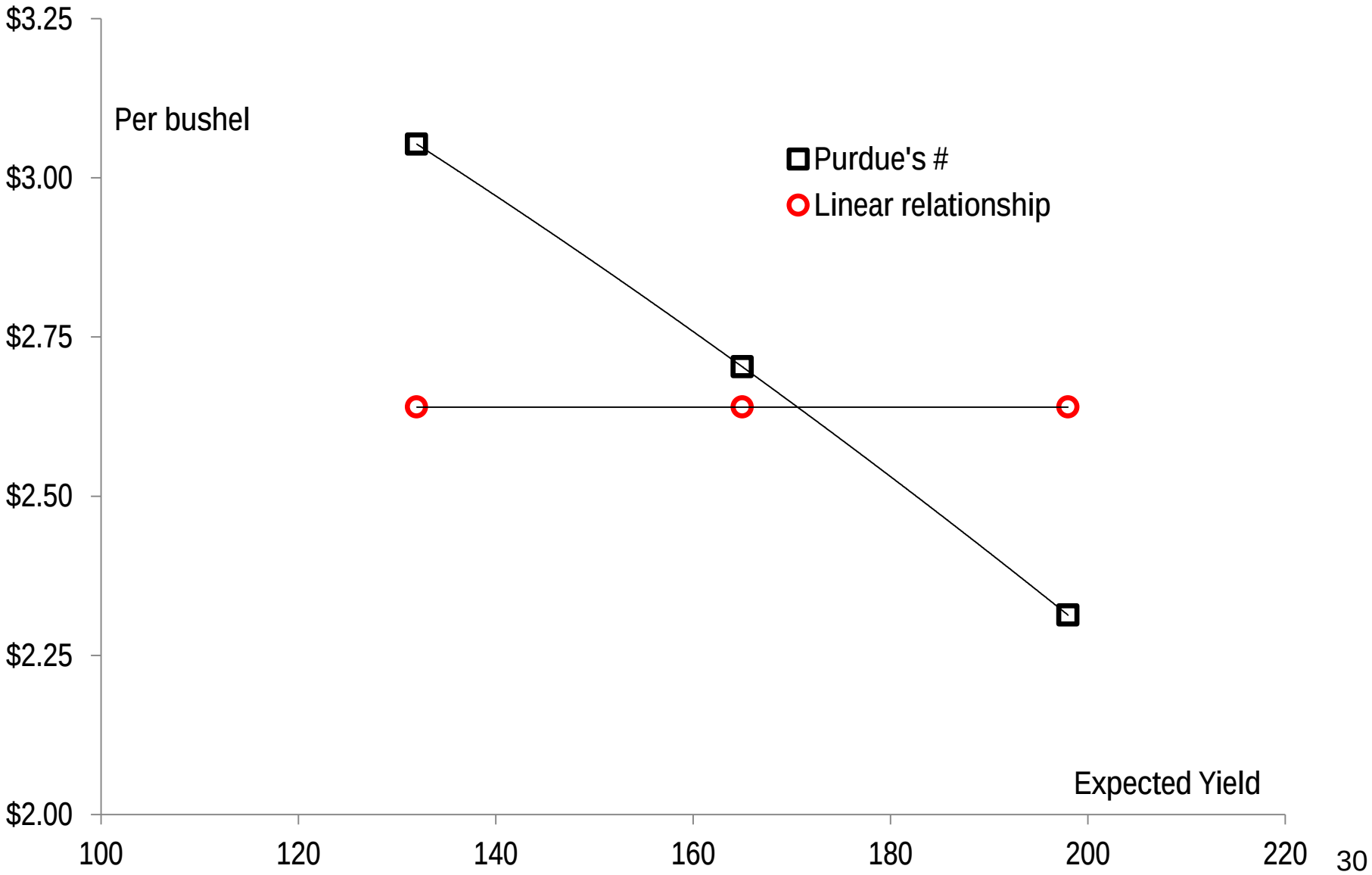


Almost the same input costs more yield

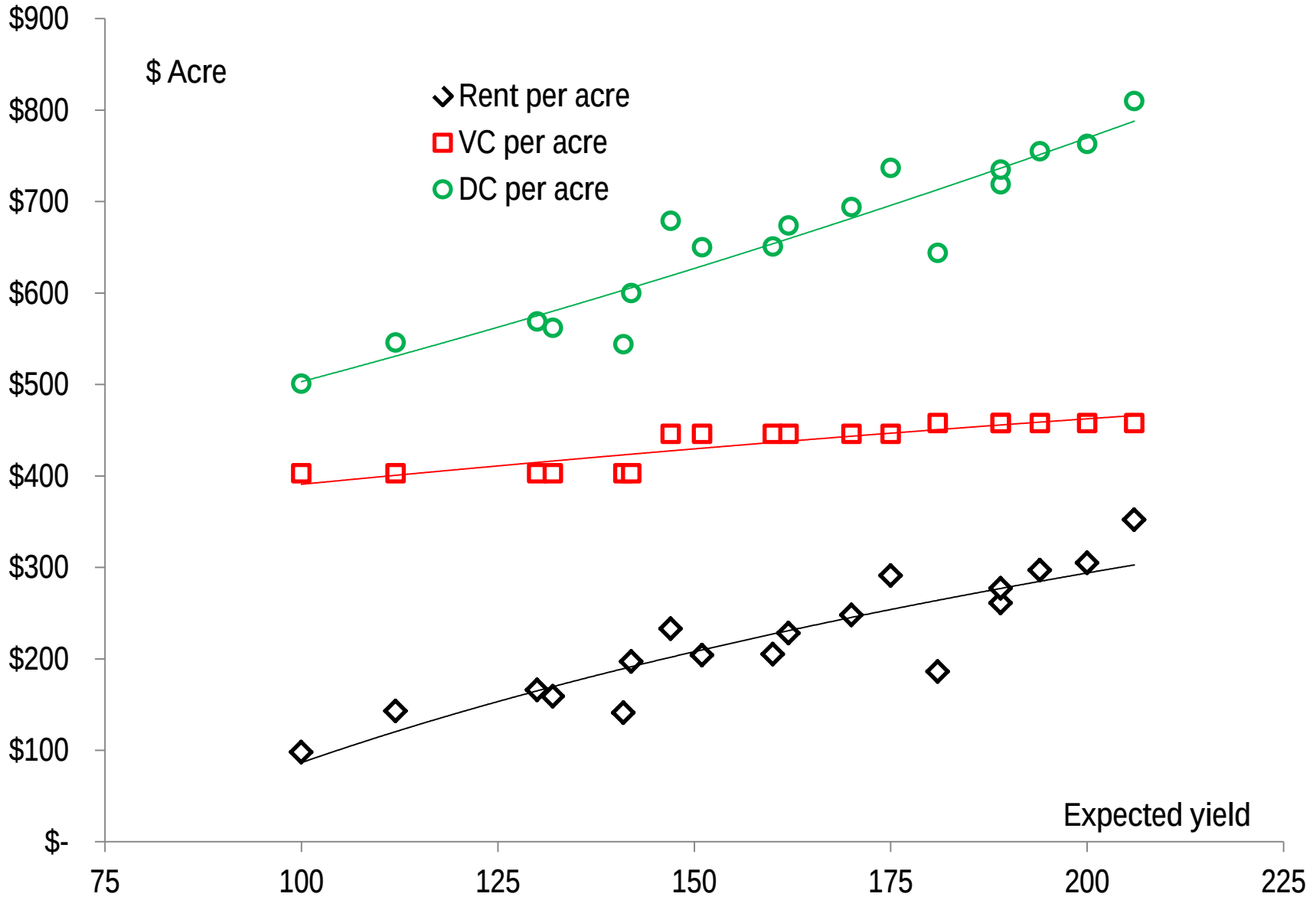
	Low	Med	High
	Rotation corn	Rotation corn	Rotation corn
Expected yield	132	165	198
Expected price	$3.50	$3.50	$3.50
Expect Revenue	$462	$578	$693
Fertilizer	$134	$144	$154
Seed	102	124	124
Pesticides	43	43	43
Dryer Fuel	20	26	31
Machinery fuel	25	25	25
Machinery repairs	22	22	22
Hauling	13	17	20
Interest	11	12	6
Insurance/misc.	33	33	33
Total variable cost	$403	$446	$458
Variable margin	$59	$132	$235

	Low	Med	High
	Rotation corn	Rotation corn	Rotation corn
Expected yield	132	165	198
Expected price	$3.50	$3.50	$3.50
Expect Revenue	132	165	198
	In bushels of trade		
Fertilizer	38	41	44
Seed	29	35	35
Pesticides	12	12	12
Dryer Fuel	6	7	9
Machinery fuel	7	7	7
Machinery repairs	6	6	6
Hauling	4	5	6
Interest	3	3	2
Insurance/misc.	9	9	9
Total variable cost	115	127	131
What's left over for you and the land lord	17	38	67

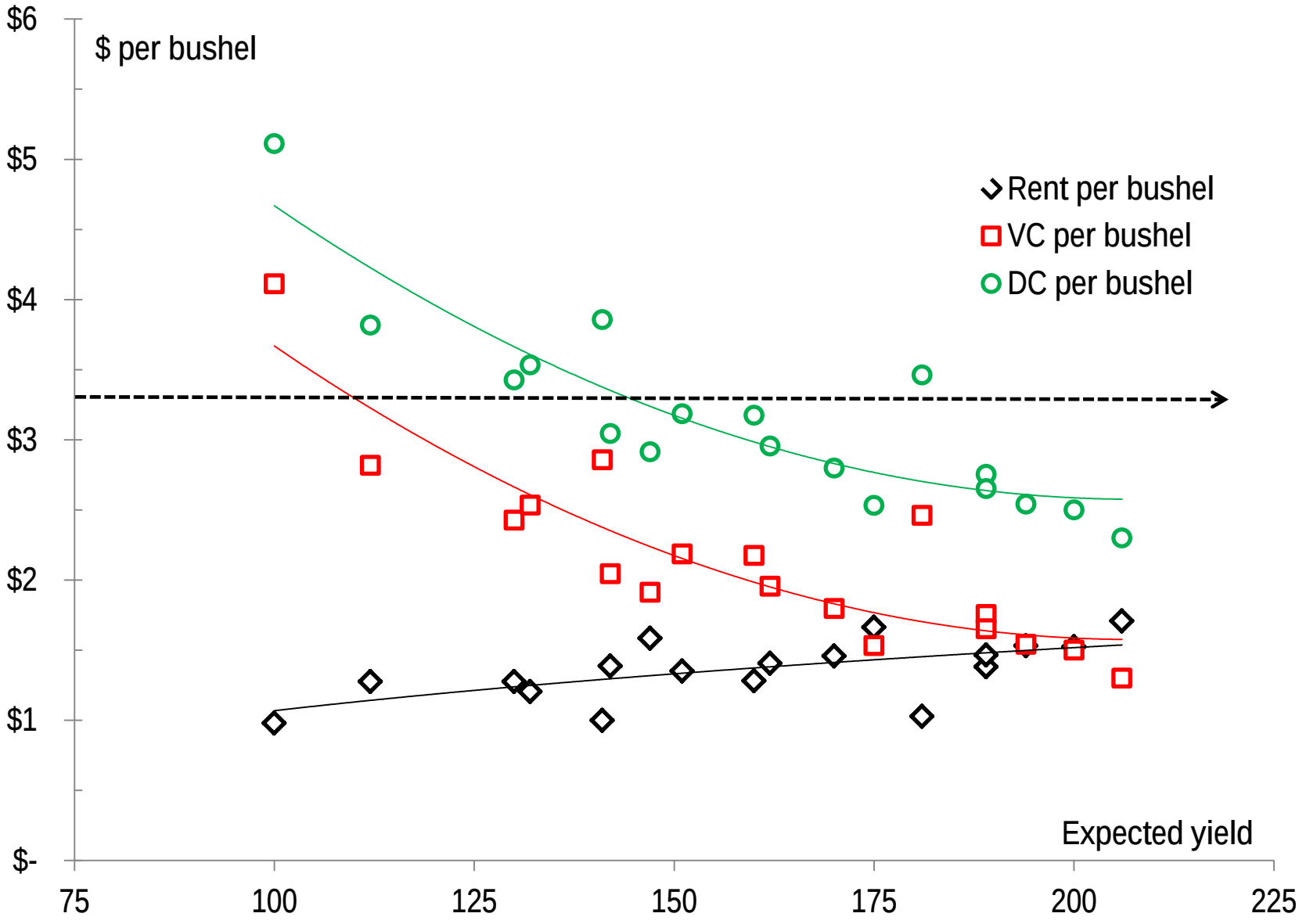
You get paid by the bushel



Dollars per acre tells you nothing



You buy corn from yourself to sell



It’s about bushels not acres

- **You get paid by the bushel**
  - Acres
  - Relative yield
- **Your success is average cost**
  - Average depends on marginal
  - Everything fixed now
  - Everything variable tomorrow
- **Adopt and adapt is a learning process**
- **Asset discipline is yours alone**